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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,196	12/05/2003	Yoshihiro Hashimoto	02008.133001	2127

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EXAMINER

DEB, ANJAN K

ART UNIT	PAPER NUMBER
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2858

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

27

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/730,196		HASHIMOTO, YOSHIHIRO	
	<b>Examiner</b>		<b>Art Unit</b>	
	Anjan K. Deb		2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 3,4,8-10, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant has amended independent claims 1 and 16 by including the limitation to supply DC voltage, and has argued that this feature is not disclosed in the prior art. However newly cited art of Hwang (US 6,531,854 B2) presented in this office action discloses this feature.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hwang (US 6,531,854 B2).

Re claim 1, Hwang (US 6,531,854 B2) discloses power supply circuit (Fig. 1) for supplying a voltage to a load 1 comprising a power supply (102) operable to supply a predetermined DC (desired voltage)(column 4 lines 51-54)(DC voltage provided by rectifier 104) voltage (V<sub>out</sub>) to the load (Load 108), an electrical path operable to electrically connect said power supply and said load to each other, a current draw unit (R<sub>mul</sub>) operable to draw a current from said electrical path, and a current control unit (132) operable to control the current drawn by said current draw unit from said electrical path to decrease the difference (error)

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between said DC voltage and a voltage received by said load ( $V_{out}$ ) so as to maintain output voltage level  $V_{out}$  at a constant level (column 5 lines 53-54).

Re claim 2, Hwang (US 6,531,854 B2) discloses current draw unit  $R_{mul}$  connects to said electrical path to be in parallel to said load (Fig. 1).

Re claim 7, Hwang discloses current control unit makes the current drawn by said current draw unit from said electrical path to be a predetermined current value as required for maintaining load voltage at a predetermined level in a case where the voltage received by said load became higher than the predetermined voltage (column 4 lines 66 to column 7 line 9).

Re claim 12, Hwang (US 6,531,854 B2) discloses current draw unit includes MOSFET 144 (Fig. 6).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 6, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang (US 6,531,854 B2).

Re claim 6, Hwang discloses all of the claimed limitations as set forth above except current control unit makes the current drawn by current draw unit from said electrical path substantially zero in a case where the voltage received by said load became lower than a predetermined voltage. However, it would have been obvious to include this feature so as to prevent further loss of voltage supplied to load.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Hwang by adding a current control feature in current control unit that makes the current drawn by current draw unit from said electrical path substantially zero in a case where the voltage received by said load became lower than a predetermined voltage so as to prevent further loss of voltage supplied to load.

Re claims 5,11, Hwang discloses electrical path includes a first coil (L) arranged between said power supply and said current draw unit but did not expressly disclose a second coil arranged between said current draw unit and said load, wherein said second coil having a smaller inductance than said first coil.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Hwang by adding a second coil having smaller inductance than said first coil arranged between said current draw unit and said load for energy storage purpose.

6. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang (US 6,531,854 B2) in view of Malec (US 5,150,072).

Re claims 13-15, Hwang disclosed all of the claimed limitations as set forth above except source terminal of MOSFET is grounded and driving MOSFET in a saturation region.

Malec (US 5,150,072) discloses distortion correction circuit wherein transistors (95, 97) are grounded and driven into saturation so that the MOSFET switching transistors operate as switches and not resistors, which could cause excessive MOSFET dissipation, high stress and potential failure.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Hwang by adding MOSFET driven in saturation region disclosed by Malec to reduce excessive MOSFET dissipation, high stress and potential failure.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang (US 6,531,854 B2) in view of Heaton (US 5,059,889).

Re claim 16, discloses all of the claimed limitations as set forth above (see rejection of claim 1), except pattern generator and determination unit to determine whether electronic device is defective or not based on output signal said electronic device outputs based on said test pattern.

Heaton discloses pattern generator (see abstract) operable to generate test pattern for testing electronic device (DUT) and determination unit CR10 operable to determine whether electronic device is defective based on an output signal (column 8 lines 13-26).

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Hwang by adding pattern generator and determination unit disclosed by Heaton for testing electronic device to determine whether electronic device is defective or not based on output signal that the electronic device outputs based on test pattern provided by pattern generator.

*Allowable Subject Matter*

8. Claims 3,4, 8-10, 17,18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 3,4 are allowable because the prior art does not teach or fairly suggest the claimed first current change unit provided in said electrical path between said current draw unit and said load to be in parallel to said load, operable to supply a current to said electrical path in a case where a current received by said load increased and draw a current from said electrical path in a case where the current received by said load decreased.

Claims 8-10 are allowable because the prior art does not teach or fairly suggest the claimed second current change unit.

Claims 17,18 are allowable because the prior art does not teach or fairly suggest current control unit controls the drawn current when power supply is on or off.

*Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bauer (US 4,504,777) discloses power supply circuit (Fig. 1) for supplying a voltage to a load 1 comprising a power supply (+UB, - UB) operable to supply a predetermined DC voltage to the load, an electrical path operable to electrically connect said power supply and said load to each other, a current draw unit (5, 3, 12, 7) operable to draw a current from said electrical path.

Ohnishi (US 5,608,614) discloses power supply circuit (Fig. 1) for supplying a voltage to a load 11 comprising a power supply (AC) operable to supply a predetermined DC (Vin) to the load, an electrical path operable to electrically connect said power supply and said load to each other, a current draw unit (12) operable to draw a current from said electrical path, and a current change unit (13).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

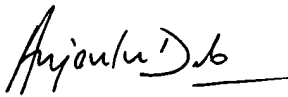


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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is 571-272-2228. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lefkowitz Edwards can be reached at 571-272-2180.



**Anjan K. Deb**

Patent Examiner

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5/17/05

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